

INSTALLATION INSTRUCTIONS

MODEL 780-95 “PLASMA FRIENDLY” J-BOX INFRARED RECEIVER



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INTRODUCTION

The **780-95** is designed to reject interference from **Plasma** Displays from entering the IR signal line. This IR Receiver mounts easily into a single gang, electrical J-Box and is supplied with mounting screws and comes with a Decorator-style insert, allowing the installer to use a Decorator-style wall cover plate. This provides an integrated look for control of A/V equipment behind closed doors or any IR Repeater System that is in close proximity to a **Plasma** Display.

FEATURES

- J-Box Mounting with Decorator-style insert (available in white(included), ivory, almond, & black)
- 4-screw terminal block for interface to **Xantech** Connecting Blocks
- Works in normal 3-wire mode
- Improved Fluorescent Light rejection
- May be used in Direct Sunlight
- RF Grid included for EMI reduction
- Talk Back LED for IR reception and full system operation indication
- Status LED for system On/Off indication (requires 12VDC Source @10mA)
- 7 units may be powered by one 781RG power supply (regulated 12VDC 200mA supply)

Note: The 780-95 will not operate in 2-wire **Phantom Power** mode

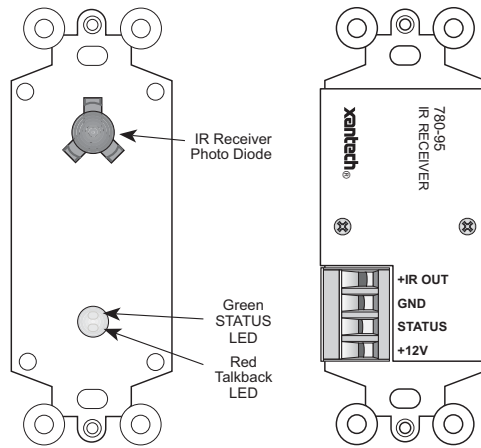


Figure 1 – 780-95: Front & Rear View

SPECIFICATIONS

- Infrared modulation frequency bandwidth: 30 - 100 kHz
- Reception range: up to 50 feet (18M), depending on local conditions
- Reception angle: 45 degrees off axis at 50% range reduction
- Cable requirements: 3-conductor. Use 24-gauge up to 200' (61M), 22 gauge up to 600' (180M), 20-gauge up to 2000' (600M), 18-gauge up to 5000' (1.5KM) -- unshielded OK.
- Maximum transmission length: One mile using 18-gauge wire (1.6KM)
- Maximum current output: 100 mA (pulse)
- Dimensions: 1-3/4" W x 4-1/8" H x 1-1/8" D
- Power requirements: 12 volts DC @ 20mA

INSTALLATION

This unit is meant to be installed into a standard J-Box mounting box and interfaced to Xantech Connecting Blocks, such as the CB12, 789-44, 791-44, etc.

CAUTION: The J-Box must NOT be shared with 120/240VAC circuits.

PLACEMENT

Placement of the IR Receiver does matter when used in the presence of a Plasma Display. Ideally it should be placed somewhere around the Display with the front of the receiver flush with the front of (or set back from) the Display. If the 780-95 needs to be placed in front of the display (such as on an adjacent side wall perpendicular to the display), make sure it is placed at a location at least 45 degrees off axis from the corners of the unit – see **Figure 2**. The presence of Direct Sunlight and Fluorescent Lighting should not effect the reception of this unit.

Note: Plasma interference can be reflected off of any item it comes into contact with within approx. 3 feet from the front of the display. Keeping this in mind, make sure that the 780-95 is free of any obstruction that might reflect back into the receiving eye.

Note: While this unit shows strong rejection to standard 50/60Hz 'ballasted' fluorescent lighting, it is still prone to interference from CFL style Fluorescent lighting.

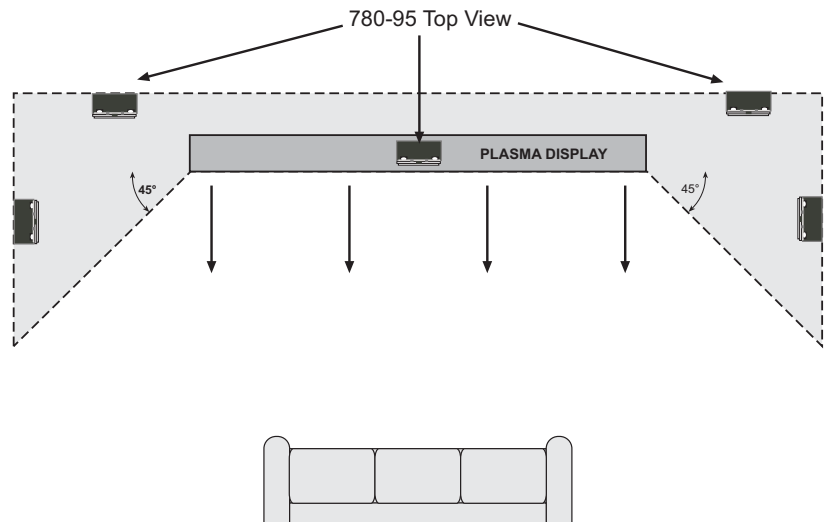


Figure 2 – 780-95 Placement

MOUNTING

1. Pre-wire a 3-conductor cable (refer to **Specifications** section for proper Wire Gauge) from the connecting block location to J-box mounting location.

Note: If using the STATUS LED feature, use 4-conductor cable in the appropriate gauge (see Figure 5)

2. Connect proper wires to the +12VDC, GND, STATUS (if applicable), and IR OUT terminals on the rear of the 780-95 as shown in **Figure 3**.
3. Secure the 780-95 into the J-Box using the supplied screws.

APPLICATION WIRING

A typical system, with a 780-95, 781RG Power Supply and 283M Emitters plugged into a 789-44 Connecting Block, is shown in Figure 3:

1. Wire the appropriate leads of the 3 or 4-conductor cable from the 780-95 to the +12VDC, GND, STATUS (if applicable), and IR IN terminals on the 789-44 Connecting Block
2. Plug in the 3.5mm mono mini plug from any of the 282, 284, 283 and 286 series Emitters into the jacks labeled EMITTERS on the 789-44 Connecting Block and affix the opposite end to the IR Sensor Window of the controlled equipment.
3. Plug in the 2.1mm Coaxial power plug of the 781RG Power Supply (not included) into the jack labeled 12VDC on the 789-44 Connecting Block.
4. Plug the AC end of the 781RG power Supply into an 'un-switched' 120VAC outlet.

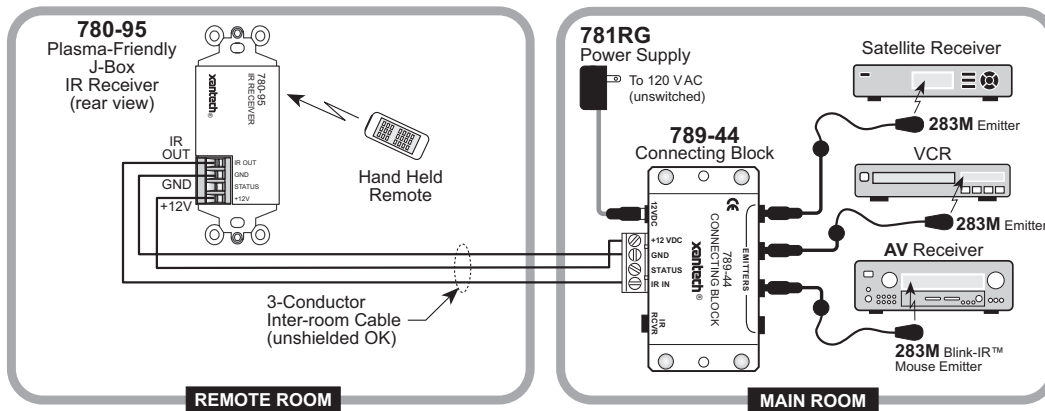


Figure 3 - Typical System Layout using 780-95, 789-44, 781RG, and 283M Emitters

ADVANCED WIRING CONFIGURATION

780-95 may also be used in conjunction with other Xantech IR Receivers by simply wiring in parallel on a Connecting Block such as the 791-44 Amplified Block as shown in Figure 4 below.

1. Connect all IR Receivers in parallel at the terminals of the connecting block as shown in Figure 4 below.
2. Plug in the 2.1mm Coaxial power plug of the 781RG (or 782) Power Supply (not included) into the jack labeled PWR on the 789-44CB.

NOTE: Up to 7 IR Receivers may be connected in parallel with a single 781RG power supply. If more IR Receivers or any Keypads are required, check total current requirements and increase power supply current rating accordingly; i.e. 782-00 - 1.2A power Supply)

3. Plug in the Emitters 3.5mm mono mini plug (282, 284, 283 or 286 series) into the Emitter Outputs on the 791-44.

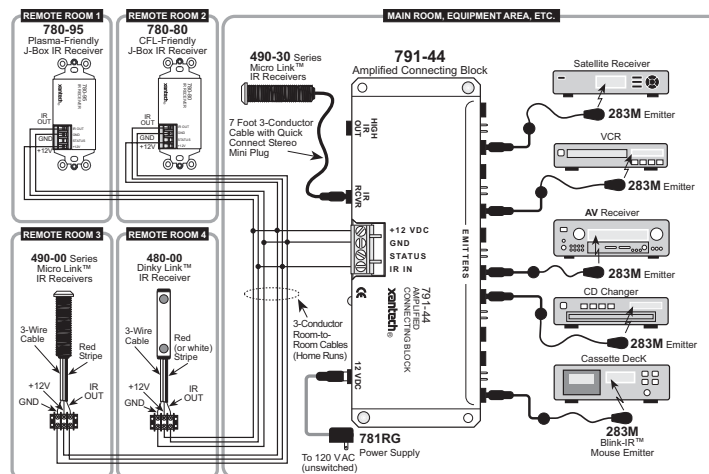


Figure 4 - Advanced Wiring Configuration using 780-95, 791-44, 781RG Power Supply and multiple 283M's

CAUTION: With any of these systems, be sure the 781RG (or 782-00) Power Supply is plugged into an un-switched AC outlet. This maintains the 780 system in "stand-by" operation so that power-on commands can be sent to the controlled equipment.

USING THE STATUS LED INDICATOR

The 780-95 *Plasma Friendly* IR Receiver includes a Status LED located just below the Talkback LED (See Fig. 1). This permits the system to have a visible power ON/OFF indicator in the remote room.

When used with any of Xantech's **Whole-house Audio Video Entertainment** systems such as the MRC-88, MRC-44 (MRC44CB1 required) or the ZPR68-10 Pre-Amp as part of the normal **4-wire** hookup, connect the terminal marked STATUS on the 780-95 *Plasma Friendly* IR Receiver to the appropriate Zones STATUS (or CO) connection on the MRC or ZPR system controller. See Figure 5 below. This will give visual ON/OFF status of the associated zone on the AV System Controller.

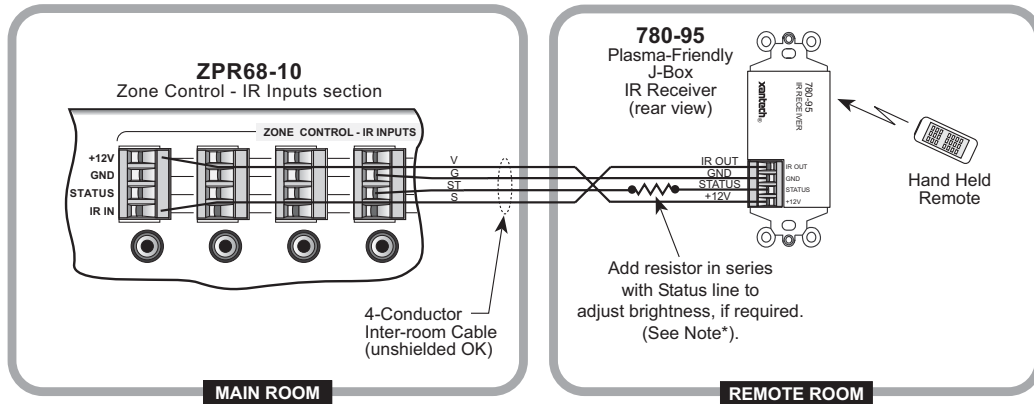


Figure 5 – Interfacing STATUS connection of 780-95 with Zone STATUS line on ZPR68-10

In Single Zone systems, the Status LED could show the ON/OFF status of an AV Receiver. To achieve this, simply plug a 12vDC adapter, such as the Xantech 786-00 Power Supply, into the **switched** AC Outlet of the AV Receiver. The 12v ‘+’ and ‘-’ leads are then connected between the STATUS (‘+’ lead) and GND (‘-’ lead) terminals of the 780-95. The Connecting Block makes a convenient tie-line for extending leads of the Power Supply to the actual terminals of the 780-95 as shown in Figure 6.

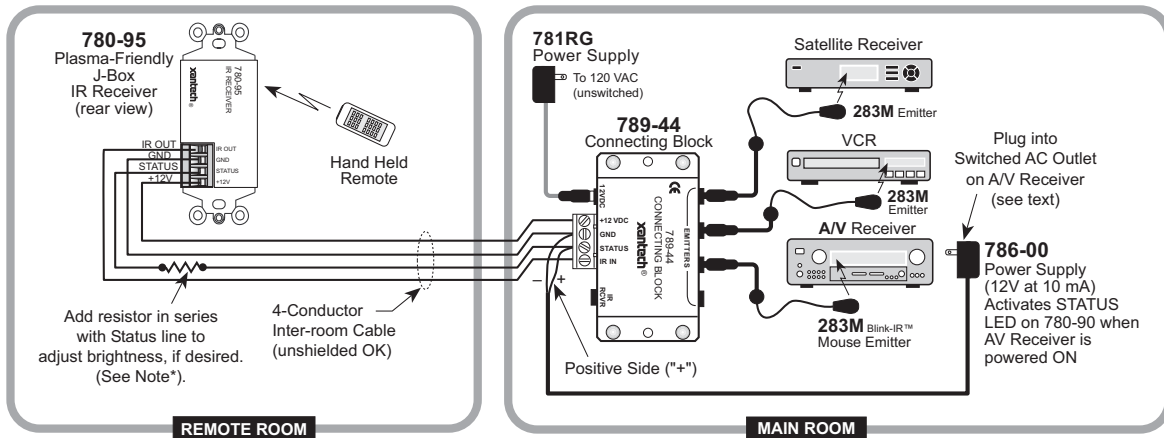


Figure 6 – Interfacing STATUS connection of 780-95 to Switched Outlet of AV Receiver

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